

Abstract Submitted  
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**Thermal Desorption Spectroscopy of plasma-facing components with the Materials Analysis and Particle Probe**<sup>1</sup> D.A. ST-ONGE, R. KAITA, M. LUCIA, R. ELLIS, PPPL, J.P. ALLAIN, F. BEDOYA, U. Illinois — The Material Analysis and Particle Probe (MAPP) is an *in vacuo* diagnostic device for studying surface-plasma interactions on plasma facing components (PFC) in fusion devices. This diagnostic allows four samples to be exposed simultaneously and analyzed individually *in situ*. The supercenter is the location at which an X-ray source, an ion source, a residual gas analyser and an electron-energy analyzer all focus. Samples in this position are interchanged by rotation of the probe head using an eight-position Geneva drive. Currently the remote automation of the probe head is being developed using LabVIEW instruments, which shall monitor and control the rotational position of the samples. One technique to analyse samples used here is through thermal desorption spectroscopy (TDS), where a sample is heated sufficiently to release adsorbed molecules from the surface. To ensure samples are analysed individually, they must be thermally isolated. We will study the thermal isolation between samples using the Lithium Tokamak Experiment (LTX), which is a spherical torus designed to study lithium-based PFCs. Preliminary TDS experiments on stainless-steel samples with a range from 20°C to 800°C and a ramp of 2°C/s will be performed on LTX plasmas.

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